

Customer No.: 31561
Application No.: 10605,034
Docket No.: 10231-US-PA

REMARKS

Present Status of Application

The Office Action dated March 8, 2005, rejected claims 1-3, 5, 7-13 under 35 U.S.C. 102(e) as being anticipated by Zhao et al. (US 2003/0179556) and under 35 USC§103(a) as being unpatentable over Zhao in view of Wang (US 5,977,626).

Applicant has most respectfully considered the remarks set forth in this Office Action. Regarding the anticipation and obvious rejections, it is however strongly believed that the cited references are deficient to adequately teach the claimed features as recited in the presently pending claims. The reasons that motivate the above position of the Applicant are discussed in detail hereafter, upon which reconsideration of the claims is most earnestly solicited. After entering the amendments, a notice of allowance is respectfully solicited.

Discussion for 103 rejections

Claims 1-3, 5 and 7-13 were rejected under 35 USC§102(e) as being anticipated by Zhao (US Patent Publication No. 2003/0179556).

In order to properly anticipate Applicant's claimed invention under 35 U.S.C. §102, each and every element of the claims in issue must be found, "either expressly or inherently described, in a single prior art reference." "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor*

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Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicants submit that independent claims 1 and 9 patently define over the prior references for at least the reason that the cited art fails to disclose each and every feature as claimed in the present invention.

Claims 1 and 9 teach, among other things, *"...disposing a stiffener on the matrix substrate, wherein the stiffener includes an outer surface and an opposite inner surface and the inner surface of the stiffener faces the matrix substrate, and wherein the stiffener has a plurality of openings and the chips are completely exposed by the openings of the stiffener..."*. Contrary to the Office's assertion, Zhao does not teach or disclose the above-mentioned claimed features. Instead, Zhao teaches a flex BGA package 110, wherein stiffener 112 is laminated to the surface of the substrate 104, and an IC die 102 is mounted on the surface of the stiffener 112 (Fig. 1b-4, [0057]). Since the stiffener 112 is configured below the die 102, the die 102 of Zhao can not be in a position to be completely exposed by the stiffener 112. Although the stiffener of Zhao may also include a plurality of openings 114, those openings are arranged adjacent to all four sides of an IC die 102 mounting position 202 in the center of the stiffener 112 ([0058], Fig. 2A & 2B). These openings in the stiffener of Zhao are formed to allow for wire bonds 108 to connect IC die to the substrate. In Figure 20i, step 2032, Zhao teaches forming a second opening in the stiffener that substantially coincides with the first opening to expose a portion of the surface of the first substrate, not to expose the chip completely. Since the openings in the stiffener are formed adjacent to the disposition of the IC die 102, even if the stiffener is positioned above the die, the openings in the stiffener can not expose the die

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completely, let alone the fact that the stiffener taught by Zhao is formed below the die. Accordingly, Applicants respectfully submit that Zhao cannot possibly anticipate the claimed invention in this regard.

Accordingly, Zhao fails to teach or disclose all limitations as recited in the independent claims 1 and 9. Claims 3, 5, 7-8 and 11-13 depend from independent claims 1 and 9, and therefore are not anticipated by the reference Zhao for at least the reasons noted above, as well as for the additional features recited therein. Therefore, reconsideration and withdrawal of these 102 rejections are respectfully requested.

The Office Action rejected claims 4 and 20-23 under 35 USC 103(a) as being unpatentable over Zhao in view of Wang et al. (US Patent 5,977,626, hereinafter Wang).

The Office Action rejected claim 6, under 35 USC 103(a) as being unpatentable over Zhao (however, the detail rejection is directed to Nakayama).

Applicants respectfully disagree and would like to point out that even though the Examiner relied upon Wang for teaching the adhesive, and further Nakayama for teaching the solder balls, still neither Wang nor Nakayama can cure the specific deficiencies of Zhao. Accordingly, claims 4, 6 and 20-23 also patently define over combination of Zhao and Wang or Nakayama for at least the same reasons discussed above. Reconsideration is respectfully requested.

The Office Action rejected claim 14-6 and 18-19, under 35 USC 103(a) as being unpatentable over Zhao.

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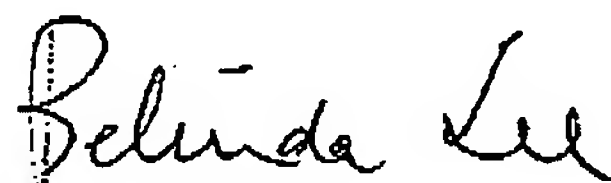
As discussed above, the process or the structure of the present invention is patentably distinct from the prior art reference because Zhao fails to disclose or suggest all limitations of claim 1 or 9 or 14. Therefore, it is respectfully submitted that claims 14-16, 18-19 patentably distinguish over the Zhao, for at least the reasons stated above as well as for the additional features that these claims recite.

CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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